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WORLD INTELLECTUAL PROPERTY ORGANIZATION International Bureau



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7:		(11) International Publication Number:	WO 00/37766
E21B 29/00, 29/10, B21D 17/04, 39/04, 39/10	A2	(43) International Publication Date:	29 June 2000 (29.06.00)

(21) International Application Number: PCT/GB99/04225

(22) International Filing Date: 21 December 1999 (21.12.99)

(30) Priority Data:
9828234.6
22 December

 9828234.6
 22 December 1998 (22.12.98)
 GB

 9900835.1
 15 January 1999 (15.01.99)
 GB

 9923783.6
 8 October 1999 (08.10.99)
 GB

 9924189.5
 13 October 1999 (13.10.99)
 GB

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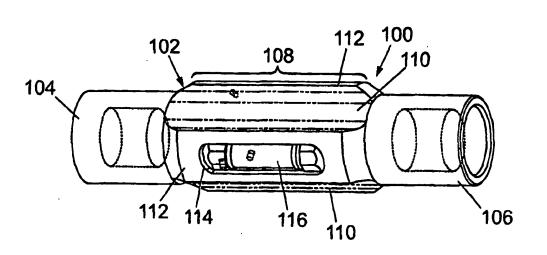
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(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published

Without international search report and to be republished upon receipt of that report.

(54) Title: PROCEDURES AND EQUIPMENT FOR PROFILING AND JOINTING OF PIPES



(57) Abstract

Methods and apparatus for shaping pipes, tubes, liners, or casing at downhole locations in wells. Use is made of rollers bearing radially outwards against the inside wall of the pipe (etc.), the rollers being rolled around the pipe to cause outward plastic deformation which expands and shapes the pipe to a desired profile. Where one pipe is inside another, the two pipes can be joined without separate components (except optional seals). Landing nipples and liner hangers can be formed in situ. Valves can be deployed to a selected downhole location and there sealed to the casing or liner without separate packers. Casing can be deployed downhole in reduced—diameter lengths and then expanded to case a well without requiring larger diameter bores and casing further uphole. The invention enables simplified downhole working, and enables a well to be drilled and produced with the minimum downhole bore throughout its depth, obviating the need for large bores. When expanding lengths of casing, the casing does not need to be anchored or made pressure—tight. The profiling/expansion tools of the invention can be deployed downhole on coiled tubing, and operated without high tensile loads on the coiled tubing.

-3/6/05, EAST Version: 2.0.1.4_